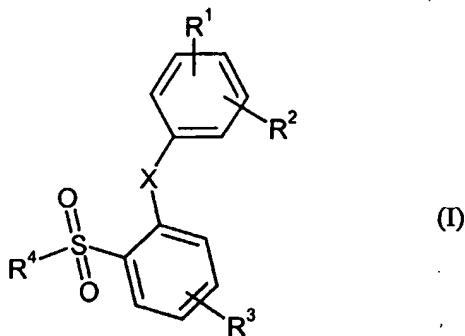


CLAIMS

1. A benzenesulfonamide derivative of the formula (I), its tautomeric or stereoisomeric form, or a salt thereof:



5                   wherein

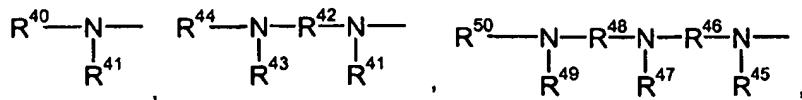
X           represents O or S;

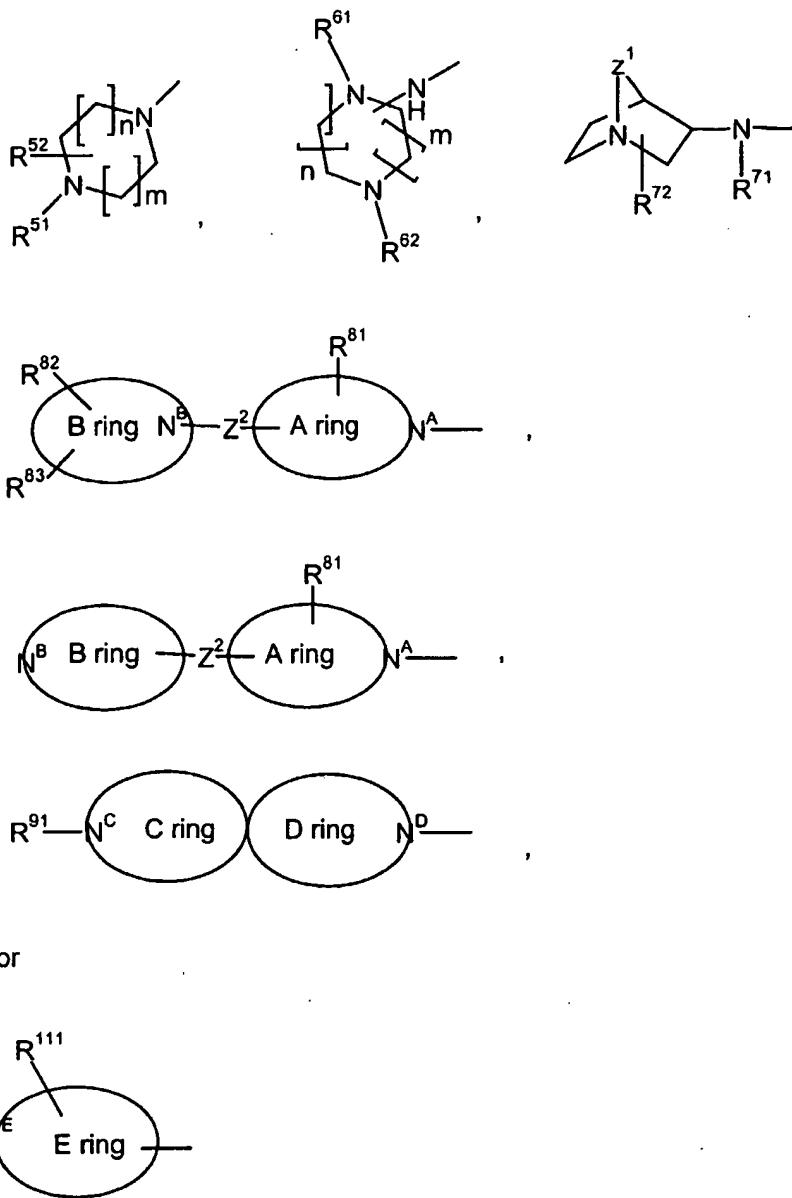
10           R<sup>1</sup>   represents hydrogen, halogen, hydroxy, nitro, cyano, C<sub>1-6</sub> alkoxy carbonyl, amino, C<sub>1-6</sub> alkylamino, di(C<sub>1-6</sub> alkyl)amino, C<sub>1-6</sub> alkanoyl, phenyl, C<sub>1-6</sub> alkyl optionally substituted by mono-, di- or tri- halogen, or C<sub>1-6</sub> alkoxy optionally substituted by mono-, di- or tri- halogen;

15           R<sup>2</sup>   represents hydrogen, halogen, hydroxy, nitro, cyano, C<sub>1-6</sub> alkoxy carbonyl, amino, C<sub>1-6</sub> alkylamino, di(C<sub>1-6</sub> alkyl)amino, C<sub>1-6</sub> alkanoyl, phenyl, C<sub>1-6</sub> alkyl optionally substituted by mono-, di- or tri- halogen or C<sub>1-6</sub> alkoxy optionally substituted by mono-, di- or tri- halogen;

20           R<sup>3</sup>   represents hydrogen, halogen, hydroxy, nitro, cyano, amino, carboxy, tetrazolyl, C<sub>1-6</sub> alkoxy, C<sub>1-6</sub> alkoxy carbonyl, C<sub>1-6</sub> alkanoyl, C<sub>1-6</sub> alkanoyl-amino, C<sub>1-6</sub> alkyl optionally substituted by mono-, di- or tri- halogen or hydroxy;

25           R<sup>4</sup>   represents





wherein

$R^{40}$  represents  $C_{1-6}$  alkyl substituted by pyrrolidinyl or piperidinyl  
 wherein said pyrrolidinyl and piperidinyl are optionally substituted  
 by mono- or di- oxo, 7-oxa-bicyclo[4.1.0]hept-3-yl optionally  
 having 1 or 2 substituents selected from the group consisting of  
 amino,  $(C_{1-6}$  alkyl)amino and di( $C_{1-6}$  alkyl)amino, or a 5 to 8  
 membered saturated heterocyclic ring containing 1 or 2 heteroatoms  
 selected from the group consisting of N and O and optionally having

from 1 to 3 substituents selected from the group consisting of hydroxy, amino, oxo and C<sub>1-6</sub> alkyl;

5           R<sup>41</sup> represents hydrogen, C<sub>1-6</sub> alkyl optionally substituted by amino, C<sub>1-6</sub> alkylamino, di(C<sub>1-6</sub> alkyl)amino, or 2,5- dioxo pyrrolidin-1-yl or a C<sub>5-8</sub> cycloalkyl optionally substituted by hydroxy,

or

R<sup>40</sup> and R<sup>41</sup> may form, together with adjacent N atom, a 5 to 8 membered saturated heterocyclic ring optionally interrupted by O;

10           R<sup>42</sup> represents C<sub>1-6</sub> alkylene optionally substituted by hydroxy or carboxy, or a C<sub>5-8</sub> cycloalkyl substituted by at least one hydroxy and moreover optionally 1 or 2 substituents selected from the group consisting of hydroxy, amino, oxo and C<sub>1-6</sub> alkyl,

or

15           R<sup>41</sup> and R<sup>42</sup> may form, together with adjacent N atom, a 5 to 8 membered saturated heterocyclic ring optionally interrupted by NH or O, wherein said 5 to 8 membered saturated heterocyclic ring is substituted by mono- or di- oxo;

20           with the proviso that when R<sup>41</sup> is hydrogen, C<sub>1-6</sub> alkyl optionally substituted by amino, C<sub>1-6</sub> alkylamino, or di(C<sub>1-6</sub> alkyl)amino, R<sup>42</sup> is hydroxy substituted C<sub>1-6</sub> alkylene or carboxy substituted C<sub>1-6</sub> alkylene;

R<sup>43</sup> represents hydrogen, or C<sub>1-6</sub> alkyl optionally substituted by hydroxy or carboxy;

R<sup>44</sup> represents hydrogen, or C<sub>1-6</sub> alkyl optionally substituted by hydroxy or carboxy;

25           with the proviso that when R<sup>41</sup> and R<sup>42</sup> form, together with adjacent N atom, a 5 to 8 membered saturated heterocyclic ring substituted by mono- or di- oxo, R<sup>44</sup> represents hydroxy substituted C<sub>1-6</sub> alkyl or carboxy substituted C<sub>1-6</sub> alkyl;

$R^{45}$ ,  $R^{47}$ ,  $R^{49}$  and  $R^{50}$  independently represent hydrogen or  $C_{1-6}$  alkyl;

$R^{46}$  and  $R^{48}$  independently represent  $C_{1-6}$  alkylene optionally substituted hydroxy or carboxy;

5 n represents an integer selected from 1 to 3;

m represents an integer selected from 0 to 3;

$R^{51}$  represents hydrogen,  $C_{1-6}$  alkyl, or a 3 to 8 membered saturated ring optionally interrupted by NH or O;

10  $R^{52}$  represents hydrogen,  $C_{1-6}$  alkoxy carbonyl, or  $C_{1-6}$  alkyl substituted by carboxy, amino, ( $C_{1-6}$  alkyl)amino, di( $C_{1-6}$  alkyl)amino, N-( $C_{1-6}$  alkylsulfonyl)amino, N-( $C_{1-6}$  alkanoyl)amino,  $C_{1-6}$  alkoxy carbonyl, tetrazolyl, triazolyl, indolinyl, isoindolinyl, indolyl, isoindolyl, pyrrolidinyl optionally substituted by mono- or di- oxo, or piperidinyl optionally substituted by mono- or di- oxo,

15 with the proviso that when  $R^{51}$  and  $R^{52}$  are hydrogen at the same time,  $R^3$  is tetrazolyl or  $C_{1-6}$  alkanoyl, or when  $R^{51}$  is hydrogen or  $C_{1-6}$  alkyl,  $R^{52}$  is other than hydrogen;

$R^{61}$  and  $R^{62}$  independently represent hydrogen or  $C_{1-6}$  alkyl optionally substituted by hydroxy, carboxy, phenyl or mono-, di- or tri halogen;

20  $R^{71}$  represents hydrogen, or  $C_{1-6}$  alkyl optionally substituted by amino, hydroxy, carboxy, pyrrolidinyl or piperidinyl, wherein said pyrrolidinyl and piperidinyl are optionally substituted by mono- or di- oxo;

25  $R^{72}$  represents hydrogen, carboxy,  $C_{1-6}$  alkanoyl, amino, ( $C_{1-6}$  alkyl)-amino, di( $C_{1-6}$  alkyl)amino, N-( $C_{1-6}$  alkyl)amino carbonyl,  $C_{1-6}$  alkyl optionally substituted by hydroxy, carboxy, or mono-, di- or tri halogen,  $C_{1-6}$  alkoxy optionally substituted by mono-, di- or tri halogen, pyrrolidinyl or piperidinyl, wherein said pyrrolidinyl and piperidinyl are optionally substituted by mono- or di- oxo;

**Z<sup>1</sup>** represents  $-[\text{CH}_2]_p-$ , wherein p represents an integer 1 or 2;

**R<sup>81</sup>** represents hydrogen, C<sub>1-6</sub> alkoxycarbonyl, or C<sub>1-6</sub> alkyl substituted by pyrrolidinyl or piperidinyl, wherein said pyrrolidinyl and piperidinyl are optionally substituted by mono- or di- oxo;

**R<sup>82</sup>** 5 represents hydrogen, hydroxy, carboxy or C<sub>1-6</sub> alkyl substituted by hydroxy, amino, or carboxy,

**R<sup>83</sup>** represents hydrogen, hydroxy, carboxy, or C<sub>1-6</sub> alkyl substituted by hydroxy, amino, or carboxy,

10 with the proviso that when R<sup>81</sup> is hydrogen, R<sup>82</sup> or R<sup>83</sup> is other than hydrogen;

**Z<sup>2</sup>** represents  $-[\text{CH}_2]_q-$ , wherein q represents an integer selected from 0 to 3;

**R<sup>91</sup>** represents hydrogen or C<sub>1-6</sub> alkyl optionally substituted by phenyl;

15 **R<sup>111</sup>** represents hydrogen, carboxy, C<sub>1-6</sub> alkoxy carbonyl, C<sub>1-6</sub> alkanoyl, N-(C<sub>1-6</sub> alkyl) aminocarbonyl, C<sub>1-6</sub> alkoxy optionally substituted by mono-, di- or tri- halogen, or C<sub>1-6</sub> alkyl optionally substituted by hydroxy, mono-, di- or tri- halogen, amino, (C<sub>1-6</sub> alkyl)amino, di(C<sub>1-6</sub> alkyl)amino, N-(C<sub>1-6</sub> alkylsulfonyl)amino, N-(C<sub>1-6</sub> alkanoyl)-amino, C<sub>1-6</sub> alkoxycarbonyl, tetrazolyl, triazolyl, indolinyl, 20 isoindolinyl, indolyl, isoindolyl, pyrrolidinyl or piperidinyl wherein said pyrrolidinyl and piperidinyl are optionally substituted by mono- or di- oxo;

**A ring** represents a 3 to 8 membered saturated heterocyclic ring, in which the nitrogen atom N<sup>A</sup> is the only hetero atom;

25 **B ring** represents a 3 to 8 membered saturated heterocyclic ring, in which the nitrogen atom N<sup>B</sup> is the only hetero atom;

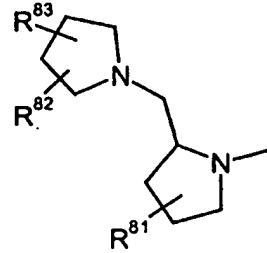
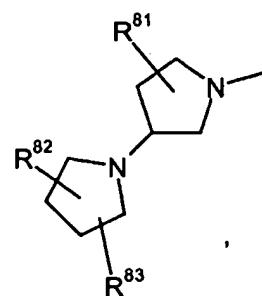
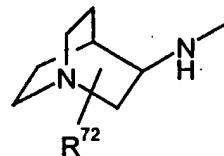
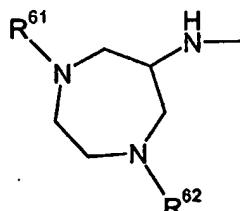
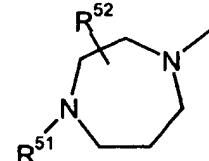
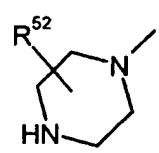
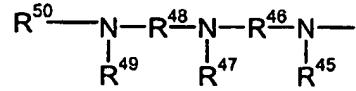
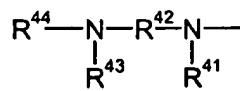
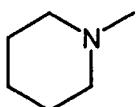
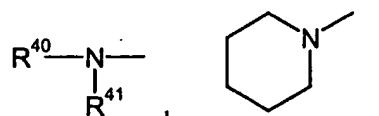
**C ring and D ring** together form a 7 to 15 membered diazabicyclic ring; and

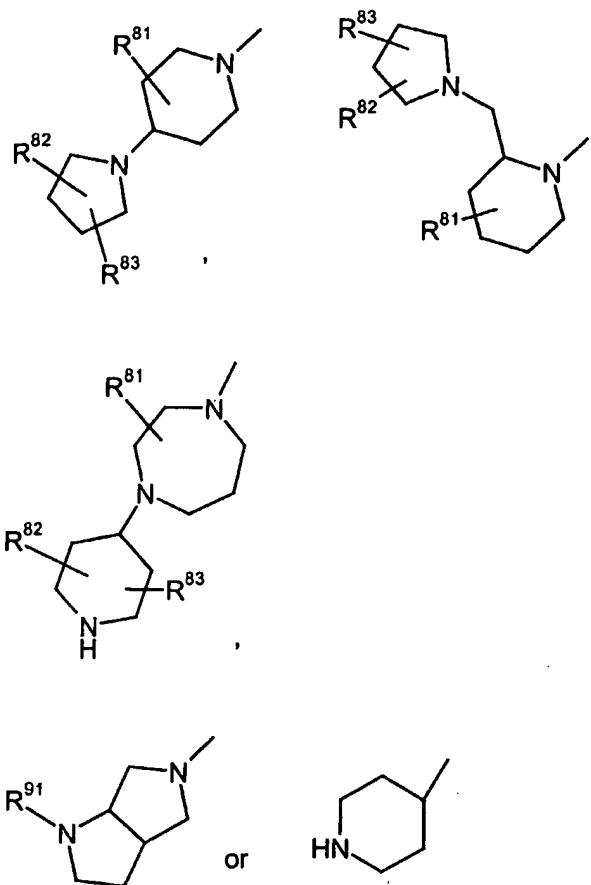
E ring represents a 5 to 8 membered saturated heterocyclic ring, in which the nitrogen atom  $N^E$  is the only hetero atom.

2. The benzenesulfonamide derivative of the formula (I), its tautomeric or stereoisomeric form, or a salt thereof as claimed in claim 1,

5 wherein

$R^4$  represents





wherein

5 consisting of 2- oxo pyrrolidin-1-yl, 2,5- dioxo pyrrolidin-1-yl, 2-  
oxo-piperidin-1-yl, 2-oxo-piperidin-3-yl, 4-oxo-piperidin-1-yl, 2-  
oxo-piperidin-6-yl, 2,5-dioxo-piperidin-1-yl, 2,6-dioxo-piperidin-1-  
yl, and 2,6-dioxo-piperidin-3-yl, piperidin-1-yl, -2-yl, -3-yl or -4-yl  
(wherein said piperidin is optionally substituted by mono- or di-  
oxo), hexahydroazepin-1-yl,-2-yl, -3-yl or -4-yl (wherein said  
hexahydroazepin is optionally substituted by mono- or di- oxo), and  
10 7-oxa-bicyclo[4.1.0]hept-3-yl optionally substituted by amino;

10

$R^{41}$  represents hydrogen, cyclopentyl or  $C_{1-6}$  alkyl optionally substituted by amino,  $C_{1-6}$  alkyl amino, di- $(C_{1-6}$  alkyl)amino, or 2,5- dioxo pyrrolidin-1-yl,

R<sup>42</sup> represents C<sub>1-4</sub> alkylene substituted by carboxy or cyclohexyl substituted by mono or di hydroxy,

R<sup>41</sup> and R<sup>42</sup> may form, together with adjacent N atom, a 5 or 6 membered saturated heterocyclic ring;

5 with the proviso that when R<sup>41</sup> is hydrogen, C<sub>1-6</sub> alkyl optionally substituted by amino, C<sub>1-6</sub> alkylamino, or di(C<sub>1-6</sub> alkyl)amino, R<sup>42</sup> is hydroxy substituted C<sub>1-6</sub> alkylene or carboxy substituted C<sub>1-6</sub> alkylene;

R<sup>43</sup> represents hydrogen or C<sub>1-6</sub> alkyl optionally substituted by hydroxy,

R<sup>44</sup> represents C<sub>1-6</sub> alkyl optionally substituted by hydroxy or carboxy,

10 with the proviso that when R<sup>41</sup> and R<sup>42</sup> form, together with adjacent N atom, a 5 or 6 membered saturated heterocyclic ring, R<sup>44</sup> is hydroxy substituted C<sub>1-6</sub> alkyl or carboxy substituted C<sub>1-6</sub> alkyl;

R<sup>45</sup>, R<sup>47</sup>, R<sup>49</sup> and R<sup>50</sup> independently represent hydrogen, methyl or ethyl;

15 R<sup>46</sup> and R<sup>48</sup> independently represent C<sub>1-6</sub> alkylene optionally substituted hydroxy or carboxy;

R<sup>51</sup> represents hydrogen, cyclopentyl, ethyl or methyl;

20 R<sup>52</sup> represents methoxycarbonyl or C<sub>1-6</sub>alkyl substituted by carboxy, amino, methoxycarbonyl, methanesulfonylamino, acetamido, indolyl, tetrazolyl, 1,2,3-triazolyl, 1,2,4-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl, pyrrolidin-1-yl, 2-oxo-pyrrolidin-1-yl, 2,5- dioxo pyrrolidin-1-yl, 2-oxo-piperidin-1-yl, 2-oxo-piperidin-3-yl, 4-oxo-piperidin-1-yl, 2-oxo-piperidin-6-yl, 2,5-dioxo-piperidin-1-yl, 2,6-dioxo-piperidin-1-yl, or 2,6-dioxo-piperidin-3-yl;

R<sup>61</sup> and R<sup>62</sup> independently represents benzyl or phenethyl;

25 R<sup>72</sup> represents hydrogen, carboxy, C<sub>1-6</sub> alkanoyl, amino, (C<sub>1-6</sub>alkyl)-amino, di(C<sub>1-6</sub>alkyl)amino, N-(C<sub>1-6</sub>alkyl)amino carbonyl, C<sub>1-6</sub> alkyl optionally substituted by hydroxy, carboxy, or mono-, di- or tri-halogen, C<sub>1-6</sub> alkoxy optionally substituted by mono-, di- or tri-

halogen, pyrrolidinyl or piperidinyl wherein said pyrrolidinyl and piperidinyl are optionally substituted by mono- or di- oxo;

5             $R^{81}$     represents hydrogen, methoxycarbonyl or  $C_{1-6}$  alkyl substituted by 2-oxo-pyrrolidin-1-yl, 2,5- dioxo pyrrolidin-1-yl, 2-oxo-piperidin-1-yl, 2-oxo-piperidin-3-yl, 4-oxo-piperidin-1-yl, 2-oxo-piperidin-6-yl, 2,5-dioxo-piperidin-1-yl, 2,6-dioxo-piperidin-1-yl, or 2,6-dioxo-piperidin-3-yl;

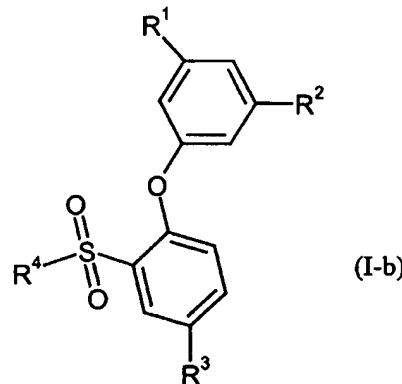
10             $R^{82}$     represents hydrogen, hydroxy or  $C_{1-6}$  alkyl substituted by hydroxy;

15             $R^{83}$     represents hydrogen, hydroxy or carboxy;

with the proviso that when  $R^{82}$  and  $R^{83}$  are hydrogen at the same time,  $R^{81}$  is other than hydrogen, or when  $R^{81}$  and  $R^{83}$  are hydrogen at the same time,  $R^{82}$  is other than hydrogen;

20             $R^{91}$     represents benzyl or phenethyl.

3.            15        A benzenesulfonamide derivative of the formula (I-b), its tautomeric or stereoisomeric form, or a salt thereof:



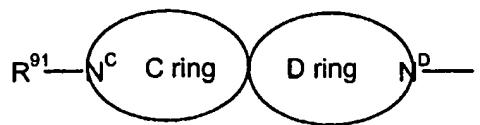
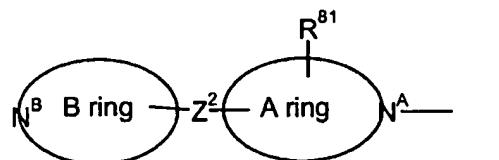
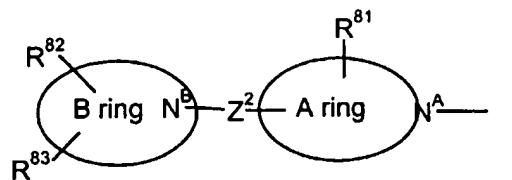
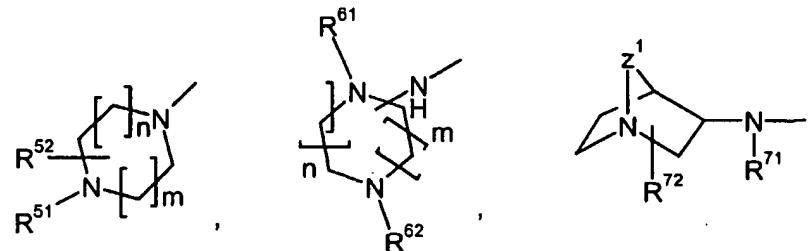
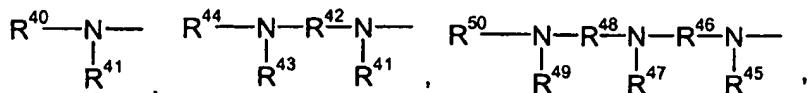
wherein

25             $R^1$     represents fluoro, chloro, bromo, iodo, or nitro;

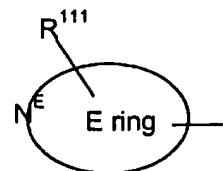
20             $R^2$     represents fluoro, chloro, bromo, iodo, or nitro;

25             $R^3$     represents acetyl, cyano, or tetrazolyl;

$R^4$  represents



or



wherein

$R^{40}$  represents  $C_{1-6}$  alkyl substituted by pyrrolidinyl or piperidinyl  
wherein said pyrrolidinyl and piperidinyl are optionally substituted  
by mono- or di- oxo, 7-oxa-bicyclo[4.1.0]hept-3-yl optionally

5 having 1 or 2 substituents selected from the group consisting of amino, (C<sub>1-6</sub> alkyl)amino and di(C<sub>1-6</sub> alkyl)amino, or a 5 to 8 membered saturated heterocyclic ring containing 1 or 2 heteroatoms selected from the group consisting of N and O and optionally having from 1 to 3 substituents selected from the group consisting of hydroxy, amino, oxo and C<sub>1-6</sub> alkyl;

10 R<sup>41</sup> represents hydrogen, C<sub>1-6</sub> alkyl optionally substituted by amino, C<sub>1-6</sub> alkylamino, di(C<sub>1-6</sub> alkyl)amino, or 2,5- dioxo pyrrolidin-1-yl or a C<sub>5-8</sub> cycloalkyl optionally substituted by hydroxy,

15 or

R<sup>40</sup> and R<sup>41</sup> may form, together with adjacent N atom, a 5 to 8 membered saturated heterocyclic ring optionally interrupted by O;

15 R<sup>42</sup> represents C<sub>1-6</sub> alkylene optionally substituted by hydroxy or carboxy, or a C<sub>5-8</sub> cycloalkyl substituted by at least one hydroxy and moreover optionally 1 or 2 substituents selected from the group consisting of hydroxy, amino, oxo and C<sub>1-6</sub> alkyl,

or

20 R<sup>41</sup> and R<sup>42</sup> may form, together with adjacent N atom, a 5 to 8 membered saturated heterocyclic ring optionally interrupted by NH or O, wherein said 5 to 8 membered saturated heterocyclic ring is substituted by mono- or di- oxo,

25 with the proviso that when R<sup>41</sup> is hydrogen, C<sub>1-6</sub> alkyl optionally substituted by amino, C<sub>1-6</sub> alkylamino, or di(C<sub>1-6</sub> alkyl)amino, R<sup>42</sup> is hydroxy substituted C<sub>1-6</sub> alkylene or carboxy substituted C<sub>1-6</sub> alkylene;

25 R<sup>43</sup> represents hydrogen, or C<sub>1-6</sub> alkyl optionally substituted by hydroxy or carboxy;

25 R<sup>44</sup> represents C<sub>1-6</sub> alkyl optionally substituted by hydroxy or carboxy,

with the proviso that when R<sup>41</sup> and R<sup>42</sup> form, together with adjacent N atom, a 5 to 8 membered saturated heterocyclic ring substituted by mono- or di-

oxo, R<sup>44</sup> represents hydroxy substituted C<sub>1-6</sub> alkyl or carboxy substituted C<sub>1-6</sub> alkyl;

R<sup>45</sup>, R<sup>47</sup>, R<sup>49</sup> and R<sup>50</sup> independently represent hydrogen or C<sub>1-6</sub> alkyl;

R<sup>46</sup> and R<sup>48</sup> independently represent C<sub>1-6</sub> alkylene optionally substituted hydroxy or carboxy;

5

n represents an integer selected from 1 to 3;

m represents an integer selected from 0 to 3;

R<sup>51</sup> represents hydrogen, C<sub>1-6</sub> alkyl, or a 3 to 8 membered saturated ring optionally interrupted by NH or O;

10

R<sup>52</sup> represents hydrogen, C<sub>1-6</sub> alkoxy carbonyl, or C<sub>1-6</sub> alkyl substituted by amino, (C<sub>1-6</sub> alkyl)amino, di(C<sub>1-6</sub> alkyl)amino, N-(C<sub>1-6</sub> alkylsulfonyl)amino, N-(C<sub>1-6</sub> alkanoyl)amino, C<sub>1-6</sub> alkoxy carbonyl, tetrazolyl, triazolyl, indolyl, isoindolyl, indolyl, isoindolyl, pyrrolidinyl optionally substituted by mono- or di- oxo, or piperidinyl optionally substituted by mono- or di- oxo,

15

with the proviso that when R<sup>51</sup> and R<sup>52</sup> are hydrogen at the same time, R<sup>3</sup> is tetrazolyl or C<sub>1-6</sub> alkanoyl, or when R<sup>51</sup> is hydrogen or C<sub>1-6</sub> alkyl, R<sup>52</sup> is other than hydrogen;

20

R<sup>61</sup> and R<sup>62</sup> independently represent hydrogen or C<sub>1-6</sub> alkyl optionally substituted by hydroxy, carboxy, phenyl or mono-, di- or trihalogen;

25

R<sup>71</sup> represents hydrogen, or C<sub>1-6</sub> alkyl optionally substituted by amino, hydroxy, carboxy, pyrrolidinyl or piperidinyl, wherein said pyrrolidinyl and piperidinyl are optionally substituted by mono- or di- oxo;

R<sup>72</sup> represents hydrogen, carboxy, C<sub>1-6</sub> alkanoyl, amino, (C<sub>1-6</sub> alkyl)-amino, di(C<sub>1-6</sub> alkyl)amino, N-(C<sub>1-6</sub> alkyl)amino carbonyl, C<sub>1-6</sub> alkyl optionally substituted by hydroxy, carboxy, or mono-, di- or trihalogen, C<sub>1-6</sub> alkoxy optionally substituted by mono-, di- or tri-

halogen, pyrrolidinyl or piperidinyl, wherein said pyrrolidinyl and piperidinyl are optionally substituted by mono- or di- oxo;

5            Z<sup>1</sup>      represents  $-[\text{CH}_2]_p-$ , wherein p represents an integer 1 or 2;

5            R<sup>81</sup>      represents hydrogen, C<sub>1-6</sub> alkoxy carbonyl, or C<sub>1-6</sub> alkyl substituted by pyrrolidinyl, or piperidinyl, wherein said pyrrolidinyl and piperidinyl are optionally substituted by mono- or di- oxo;

10           R<sup>82</sup>      represents hydrogen, hydroxy, carboxy or C<sub>1-6</sub> alkyl substituted by hydroxy, amino, or carboxy,

10           R<sup>83</sup>      represents hydrogen, hydroxy, carboxy, or C<sub>1-6</sub> alkyl substituted by hydroxy, amino, or carboxy,

with the proviso that when R<sup>81</sup> is hydrogen, R<sup>82</sup> or R<sup>83</sup> is other than hydrogen;

15           Z<sup>2</sup>      represents  $-[\text{CH}_2]_q-$ ,

wherein

15           q      represents an integer selected from 0 to 3;

20           R<sup>91</sup>      represents hydrogen or C<sub>1-6</sub> alkyl optionally substituted by phenyl;

20           R<sup>111</sup>      represents hydrogen, carboxy, C<sub>1-6</sub> alkoxy carbonyl, C<sub>1-6</sub> alkanoyl, N-(C<sub>1-6</sub> alkyl) aminocarbonyl, C<sub>1-6</sub> alkoxy optionally substituted by mono-, di- or tri- halogen, or C<sub>1-6</sub> alkyl optionally substituted by hydroxy, mono-, di- or tri- halogen, amino, (C<sub>1-6</sub> alkyl)amino, di(C<sub>1-6</sub> alkyl)amino, N-(C<sub>1-6</sub> alkylsulfonyl)amino, N-(C<sub>1-6</sub> alkanoyl)-amino, C<sub>1-6</sub> alkoxy carbonyl, tetrazolyl, triazolyl, indoliny, isoindoliny, indolyl, isoindolyl, pyrrolidinyl or piperidinyl, wherein said pyrrolidinyl and piperidinyl are optionally substituted by mono- or di- oxo;

25           A ring      represents a 3 to 8 membered saturated heterocyclic ring, in which the nitrogen atom N<sup>A</sup> is the only hetero atom;

**B** ring represents a 3 to 8 membered saturated heterocyclic ring, in which the nitrogen atom  $N^B$  is the only hetero atom;

C ring and D ring together form a 7 to 12 membered diazabicyclic ring; and

5 E ring represents a 5 to 8 membered saturated heterocyclic ring, in which the nitrogen atom  $N^E$  is the only hetero atom.

4. The benzenesulfonamide derivative of the formula (I-b), its tautomeric or stereoisomeric form, or a salt

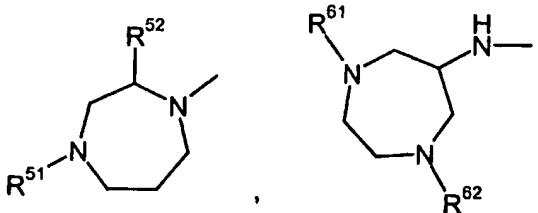
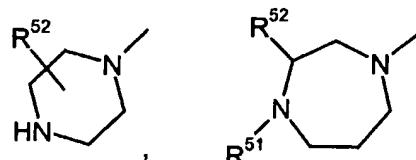
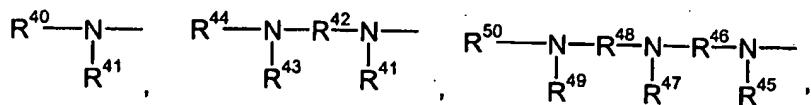
wherein

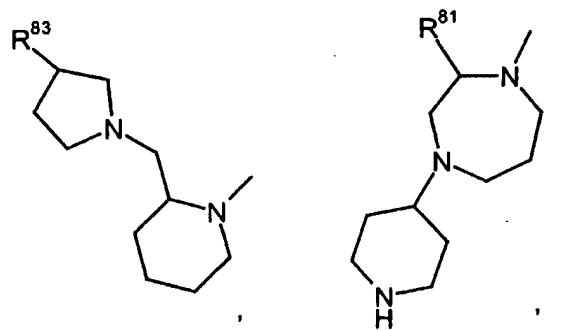
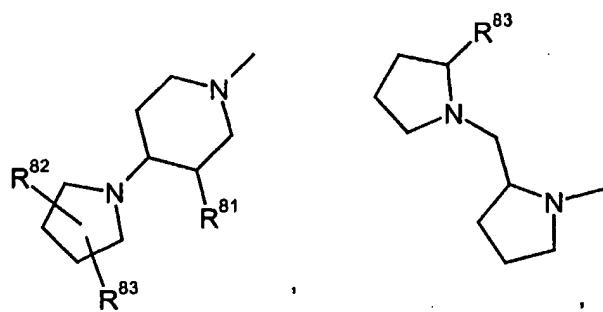
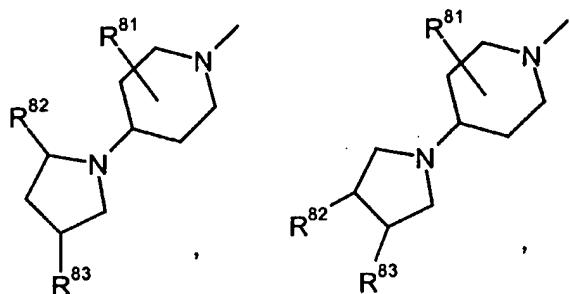
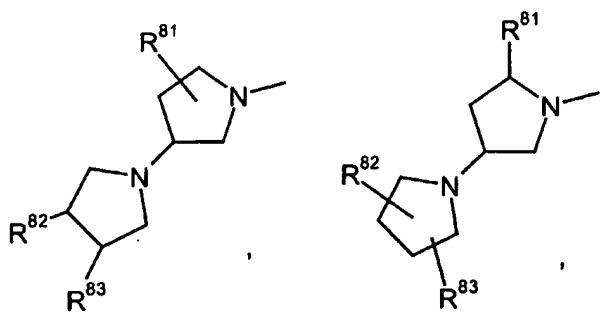
$R^1$  represents fluoro, chloro or bromo:

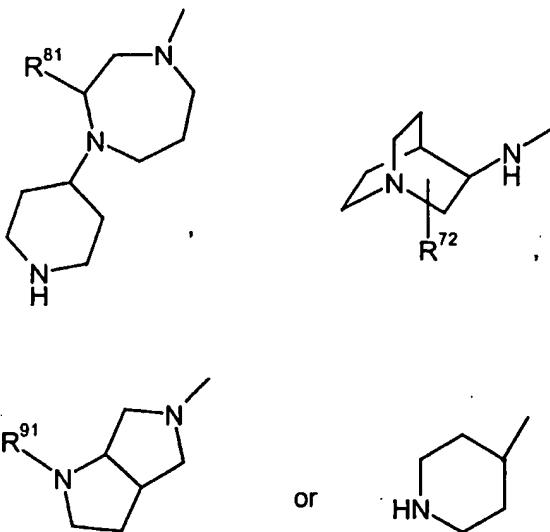
10            R<sup>2</sup>      represents fluoro, chloro or bromo:

$R^3$  represents cyano;

$R^4$  represents







wherein

5                    R<sup>40</sup>    represents C<sub>1-6</sub> alkyl having substituent selected from the group consisting of 2- oxo pyrrolidin-1-yl, 2,5- dioxo pyrrolidin-1-yl, 2-oxo-piperidin-1-yl, 2-oxo-piperidin-3-yl, 4-oxo-piperidin-1-yl, 2-oxo-piperidin-6-yl, 2,5-dioxo-piperidin-1-yl, 2,6-dioxo-piperidin-1-yl, 2,6-dioxo-piperidin-3-yl, piperidin-1-yl, -2-yl, -3-yl or -4-yl (wherein said piperidin is optionally substituted by mono- or di-oxo), hexahydroazepin-1-yl, -2-yl, -3-yl or -4-yl (wherein said hexahydroazepin is optionally substituted by mono- or di- oxo), and 7-oxa-bicyclo[4.1.0]hept-3-yl optionally substituted by amino;

10                  R<sup>41</sup>    represents hydrogen, cyclopentyl or C<sub>1-6</sub> alkyl optionally substituted by amino, C<sub>1-6</sub> alkyl amino, di-(C<sub>1-6</sub> alkyl)amino, or 2,5- dioxo pyrrolidin-1-yl,

15                  R<sup>42</sup>    represents C<sub>1-4</sub> alkylene substituted by carboxy or cyclohexyl substituted by mono- or di- hydroxy,

                        R<sup>41</sup> and R<sup>42</sup> may form, together with adjacent N atom, a 5 or 6 membered saturated heterocyclic ring;

                        R<sup>43</sup>    represents hydrogen or C<sub>1-6</sub> alkyl optionally substituted by hydroxy,

                        R<sup>44</sup>    represents C<sub>1-6</sub> alkyl optionally substituted by hydroxy or carboxy,

with the proviso that when R<sup>41</sup> and R<sup>42</sup> form, together with adjacent N atom, a 5 or 6 membered saturated heterocyclic ring, R<sup>44</sup> is hydroxy substituted C<sub>1-6</sub> alkyl or carboxy substituted C<sub>1-6</sub> alkyl;

R<sup>45</sup>, R<sup>47</sup>, R<sup>49</sup> and R<sup>50</sup> independently represent hydrogen, methyl or ethyl;

5 R<sup>46</sup> and R<sup>48</sup> independently represent C<sub>1-6</sub> alkylene optionally substituted hydroxy or carboxy;

R<sup>51</sup> represents hydrogen, cyclopentyl, ethyl or methyl;

10 R<sup>52</sup> represents methoxycarbonyl or C<sub>1-6</sub>alkyl substituted by carboxy, amino, methoxycarbonyl, methanesulfonylamino, acetamido, indolyl, tetrazolyl, 1,2,3-triazolyl, 1,2,4-triazolyl, 1,2,5-triazolyl, 1,3,4-triazolyl, pyrrolidin-1-yl, 2-oxo-pyrrolidin-1-yl, 2,5- dioxo pyrrolidin-1-yl, 2-oxo-piperidin-1-yl, 2-oxo-piperidin-3-yl, 4-oxo-piperidin-1-yl, 2-oxo-piperidin-6-yl, 2,5-dioxo-piperidin-1-yl, 2,6-dioxo-piperidin-1-yl, or 2,6-dioxo-piperidin-3-yl;

15 R<sup>61</sup> and R<sup>62</sup> independently represents benzyl or phenethyl;

20 R<sup>72</sup> represents hydrogen, carboxy, C<sub>1-6</sub> alkanoyl, amino, (C<sub>1-6</sub>alkyl)-amino, di(C<sub>1-6</sub>alkyl)amino, N-(C<sub>1-6</sub>alkyl)amino carbonyl, C<sub>1-6</sub> alkyl optionally substituted by hydroxy, carboxy, or mono-, di- or tri-halogen, C<sub>1-6</sub> alkoxy optionally substituted by mono-, di- or tri-halogen, pyrrolidinyl or piperidinyl, wherein said pyrrolidinyl and piperidinyl are optionally substituted by mono- or di- oxo;

25 R<sup>81</sup> represents hydrogen, methoxycarbonyl or C<sub>1-6</sub> alkyl substituted by 2-oxo-pyrrolidin-1-yl, 2,5- dioxo pyrrolidin-1-yl, 2-oxo-piperidin-1-yl, 2-oxo-piperidin-3-yl, 4-oxo-piperidin-1-yl, 2-oxo-piperidin-6-yl, 2,5-dioxo-piperidin-1-yl, 2,6-dioxo-piperidin-1-yl, or 2,6-dioxo-piperidin-3-yl;

R<sup>82</sup> represents hydrogen, hydroxy or hydroxy substituted C<sub>1-6</sub> alkyl;

R<sup>83</sup> represents hydrogen, hydroxy or carboxy;

with the proviso that when R<sup>82</sup> and R<sup>83</sup> are hydrogen at the same time, R<sup>81</sup> is other than hydrogen, or when R<sup>81</sup> and R<sup>83</sup> are hydrogen at the same time, R<sup>82</sup> is other than hydrogen;

R<sup>91</sup> represents benzyl or phenethyl.

5 5. The benzenesulfonamide derivative, its tautomeric or stereoisomeric form, or a physiologically acceptable salt thereof as claimed in claim 1 to 4, wherein said benzenesulfonamide derivative of the formula is selected from the group consisting of:

10 3-(1-Benzyl-hexahydro-pyrrolo[3,4-b]pyrrole-5-sulfonyl)-4-(3,5-dichloro-phenoxy)-benzonitrile;

15 N-{4-[5-Cyano-2-(3,5-dichloro-phenoxy)-benzenesulfonyl]-piperazin-2-ylmethyl}-methanesulfonamide;

20 N-{4-[5-Cyano-2-(3,5-dichloro-phenoxy)-benzenesulfonyl]-piperazin-2-ylmethyl}-acetamide;

25 N-{1-[5-Cyano-2-(3,5-dichloro-phenoxy)-benzenesulfonyl]-piperazin-2-ylmethyl}-methanesulfonamide;

30 N-{1-[5-Cyano-2-(3,5-dichloro-phenoxy)-benzenesulfonyl]-piperazin-2-ylmethyl}-acetamide;

35 4-(3,5-Dichloro-phenoxy)-3-[(3R)-(2-hydroxy-ethylamino)-pyrrolidine-1-sulfonyl]-benzonitrile;

40 3-(2-Aminomethyl-piperazine-1-sulfonyl)-4-(3,5-dichloro-phenoxy)-benzonitrile dihydrochloride;

45 1-[5-Cyano-2-(3,5-dichloro-phenoxy)-benzenesulfonyl]-[1,4]diazepane-2-carboxylic acid methyl ester;

50 25 4-(3,5-Dichloro-phenoxy)-3-[3(S)-(1H-indol-3-ylmethyl)-piperazine-1-sulfonyl]-benzonitrile;

4-(3,5-Dichloro-phenoxy)-3-[2(S)-(1H-indol-3-ylmethyl)-piperazine-1-sulfonyl]-benzonitrile;

4-(3,5-Dichloro-phenoxy)-3-[2-(2,5-dioxo-pyrrolidin-1-ylmethyl)-piperazine-1-sulfonyl]-benzonitrile;

5 N-{1-[5-Cyano-2-(3,5-dichloro-phenoxy)-benzenesulfonyl]-[1,4]diazepan-2-ylmethyl}-methanesulfonamide;

1-[4-(3,5-Dichloro-phenoxy)-3-(piperazine-1-sulfonyl)-phenyl]-ethanone;

(R)-N-(1-Aza-bicyclo[2.2.2]oct-3-yl)-5-cyano-2-(3,5-dichloro-phenoxy)-benzenesulfonamide;

10 (S)-N-(1-Aza-bicyclo[2.2.2]oct-3-yl)-5-cyano-2-(3,5-dichloro-phenoxy)-benzenesulfonamide;

4-(3,5-Dichloro-phenoxy)-3-{4-[(2S)-(1-hydroxy-1-methyl-ethyl)-pyrrolidin-1-yl]-piperidine-1-sulfonyl}-benzonitrile;

4-(3,5-Dichloro-phenoxy)-3-(3-tetrazol-2-ylmethyl-piperazine-1-sulfonyl)-benzonitrile;

15 4-(3,5-Dichloro-phenoxy)-3-(3-[1,2,4]triazol-1-ylmethyl-piperazine-1-sulfonyl)-benzonitrile;

4-(3,5-Dichloro-phenoxy)-3-(2-[1,2,4]triazol-1-ylmethyl-piperazine-1-sulfonyl)-benzonitrile;

20 5-Cyano-2-(3,5-dichloro-phenoxy)-N-(2-dimethylamino-ethyl)-N-[2-(2,5-dioxo-pyrrolidin-1-yl)-ethyl]-benzenesulfonamide;

4-(3,5-Dichloro-phenoxy)-3-[3-(2,5-dioxo-pyrrolidin-1-ylmethyl)-piperazine-1-sulfonyl]-benzonitrile;

25 4-(3,5-Dichloro-phenoxy)-3-[3-(2,5-dioxo-pyrrolidin-1-ylmethyl)-4-pyrrolidin-1-yl-piperidine-1-sulfonyl]-benzonitrile;

4-(3,5-Dichloro-phenoxy)-3-{4-[(2S)-hydroxymethyl-pyrrolidin-1-yl]-piperidine-1-sulfonyl}-benzonitrile;

4-(3,5-Dichloro-phenoxy)-3-((2S)-[(2S)-hydroxymethyl-pyrrolidin-1-ylmethyl]-pyrrolidine-1-sulfonyl}-benzonitrile;

*N*-(1-aza-bicyclo[2.2.2]oct-3-yl)-2-(3,5-dichloro-phenylsulfanyl)-5-nitro-benzenesulfonamide;

5 and

4-(3,5-Dichloro-phenoxy)-3-(piperidine-4-sulfonyl)-benzonitrile.

6. A medicament comprising the benzenesulfonamide derivative of the formula (I), its tautomeric or stereoisomeric form, or a physiologically acceptable salt thereof as claimed in claim 1 as an active ingredient.
- 10 7. The medicament as claimed in claim 6, further comprising one or more pharmaceutically acceptable excipients.
8. The medicament as claimed in claim 6, wherein said benzenesulfonamide derivative of the formula (I), its tautomeric or stereoisomeric form, or a physiologically acceptable salt thereof is a CCR3 antagonist.
- 15 9. The medicament as claimed in claim 6 for the treatment and/or prophylaxis of an inflammatory disorder or disease.
10. The medicament as claimed in claim 9, wherein said inflammatory disorder or disease is selected from the group consisting of asthma, rhinitis, allergic diseases, and autoimmune pathologies.
- 20 11. The medicament as claimed in claim 6 for the treatment or prevention of a disease selected from the group consisting of HIV, lung granuloma, and Alzheimer's diseases.
12. Use of the benzenesulfonamide derivative, its tautomeric or stereoisomeric form, or a physiologically acceptable salt thereof as claimed in claim 1 to 5 in the preparation of a medicament for treating or preventing a CCR3 related disorder or disease.
- 25 13. The use of claim 12, wherein said disorder or disease is a inflammatory or immuno-regulatory disorder or disease.

14. The use of claim 12, wherein said disorder or disease is selected from the group consisting of asthma, rhinitis, allergic diseases, and autoimmune pathologies.
15. The use of claim 12, wherein said disorder or disease is selected from the group consisting of HIV, lung granuloma, and Alzheimer's diseases.
- 5 16. The use of claim 12, wherein said benzenesulfonamide derivative, its tautomeric or stereoisomeric form, or a physiologically acceptable salt thereof is formulated with one or more pharmaceutically acceptable excipients.
- 10 17. Process for controlling an inflammatory or immunoregulatory disorder or disease in humans and animals by administration of a CCR3-antagonistically effective amount of at least one compound according to claim 1 to 5.